

Appl. No. 09/885,319
Amdt. dated April 26, 2006
Reply to Office action of Oct. 26, 2005

REMARKS

The Office Action of October 26, 2005 rejected claims 54-90. This response amends claims 54, 58, 63, 65, 67, 71, 79, and 80, cancels claims 57, and 83-90, and adds new claims 98-120. Reconsideration of the application is respectfully requested.

NEW CLAIMS

This response adds new claims 98-120. These claims are similar to claims 1-5, 8, 10-13, 16-19, 38-39, 43-46, 49, 50, and 52, which were each allowed in the Notice of Allowance dated June 24, 2004. Applicant asserts that there is no new matter presented and each of claims 98-120 is allowable.

SECTION 131 DECLARATION

The Office noted that the previously filed section 131 Declaration was defective because it was not executed by all the inventors. Applicants submit herewith a new section 131 Declaration signed by all the inventors.

The Office stated that the Declaration was defective because the place of execution was not indicated. Applicants assert that the Declaration filed herewith meets the requirements set forth in MPEP § 715.04 for a Declaration as a substitute for an oath, which does not require the place of execution to be listed.

The Office stated that the Declaration was not sufficient to support claim 54 of the application. Applicants have amended claim 54 and assert that the Declaration supports claim 54 as amended.

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CLAIM OBJECTIONS

The Office objected to claims 71 and 83 for various informalities. Applicants have amended claim 71 and respectfully request the removal of this objection. Applicants have canceled claim 83, rendering this objection moot.

CLAIM REJECTIONS – 35 U.S.C. § 112

The Office rejected claims 54-73 and 83-90 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

With respect to claim 54, the Office rejected the term “a layer of material including In and P.” Applicants have amended this claim to recite “a layer of material selected from the group consisting of InP and InGaP.” Applicants assert that claim 54 satisfies the requirements of 35 U.S.C. § 112, first paragraph.

With respect to claim 65, the Office stated that the phrase “at least in part” is not supported by the specification. Applicants have amended claim 65 to remove that limitation. Applicants assert that claim 65 satisfies the requirements of 35 U.S.C. § 112, first paragraph.

With respect to claim 83, Applicants have cancelled claims 83-90, rendering this rejection moot.

The Office rejected claims 65-73, 79-80, and 83-90 under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicants have amended claims 65, 67, 71, 79, and 80 and assert that each of the rejections listed in the Office Action have been overcome.

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Applicants have canceled claims 83-90, rendering the rejection of those claims moot.

Applicants respectfully request the removal of this rejection.

CLAIM REJECTIONS – 35 U.S.C. § 102

The Office rejected claims 54, 59, 61, and 64 under 35 U.S.C. § 102(b) as being anticipated by Ringel et al. (U.S. Patent 5,571,339). Applicants have amended claim 54 to incorporate the elements of former claim 57. Applicants assert that claim 54, as amended, is patentable over Ringel et al. and respectfully request the removal of the rejection of claim 54. Applicants assert that claims 59, 61, and 64 are patentable over Ringel as depending from an allowable base claim.

The Office rejected claims 65-68 and 71 under 35 U.S.C. § 102(b) as being anticipated by Chiang et al. Applicants respectfully traverse this rejection. The Office states that Chiang's GaInP layer prevents diffusion of arsenic from the middle GaAs cell into the Ge substrate. Applicants respectfully disagree. Figure 2 of Chiang shows two GaAs layers below the GaInP layer. Applicants assert that, even if the GaInP layer prevented diffusion of arsenic from the middle GaAs cell into the Ge substrate, the GaInP layer does nothing to prevent diffusion of arsenic from the two GaAs "tunnel junction" layers into the Ge substrate. Applicants assert that Chiang thus fails to anticipate claim 65 or the claims that depend from claim 65. Applicants respectfully request the removal of this rejection.

The Office rejected claims 54-57, 59-67, 69, 71, and 72 under 35 U.S.C. § 102(e) as being anticipated by Ermer et al. (U.S. Patent 6,380,601). Applicants assert that the section 131 declaration submitted herewith shows that the present invention was completed before March

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29, 1999, the filing date of Ermer. Therefore, Ermer is not prior art. Applicants respectfully request the removal of this rejection.

CLAIM REJECTIONS – 35 U.S.C. § 103

The Office rejected claims 54, 55, 59-61, and 64 under 35 U.S.C. § 103(a) as being unpatentable over Ringel (U.S. patent 5,571,339). As explained above, Applicants have amended claim 54 to incorporate the elements of former claim 57. Applicants assert that claim 54, as amended, is patentable over Ringel et al. and respectfully request the removal of the rejection of claim 54. Applicants assert that claims 55, 59-61, and 64 are patentable over Ringel as depending from an allowable base claim.

The Office rejected claims 54, 55, 59, 61, 64, 65, and 71 under 35 U.S.C. § 103(a) as being unpatentable over Olson (U.S. patent 5,342,453). As explained above, Applicants have amended claim 54 to incorporate the elements of former claim 57. Applicants assert that claim 54, as amended, is patentable over Ringel et al. and respectfully request the removal of the rejection of claim 54. Applicants assert that claims 55, 59, 61, and 64 are patentable over Olson as depending from an allowable base claim.

The Office rejected claims 60 and 72 as being unpatentable over Olson in view of Friedman et al. Applicants assert that claim 60 is patentable as depending from an allowable base claim. As for claim 72, it recites a thickness of “350 Angstroms or less.” The Office asserts that Friedman reads on that claim. However, the Office admits that Friedman only recites a thickness of 200 Angstroms. Applicants assert that “200 Angstroms” does not read

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upon the phrase "350 Angstroms or less." Therefore, Applicants assert that the combination of Olson and Friedman does not render claim 72 unpatentable.

The Office rejected claims 65-68, 71, and 72 under 35 U.S.C. § 103(a) as being unpatentable over Chiang in view of Friedman. For the reasons set forth above with respect to the section 102 rejection based on Chiang and with respect to the section 103 rejection based on Friedman, Applicants assert that claim 65 and the claims that depend therefrom are patentable over Chiang in view of Friedman.

The Office rejected claims 65-68, 71, and 73 under 35 U.S.C. § 103(a) as being unpatentable over Chiang in view of Stanbery (U.S. Patent 4,322,571). For the reasons set forth above with respect to the section 102 rejection based on Chiang, Applicants assert that claim 65 and the claims that depend therefrom are patentable over Chiang in view of Stanbery.

The Office rejected claims 65-71, 74-76, and 78-82 under 35 U.S.C. § 103(a) as being unpatentable over Chiang et al. in view of Wiesmann. For the reasons set forth above with respect to the section 102 rejection based on Chiang, Applicants assert that claim 65 and the claims that depend therefrom are patentable over Chiang in view of Weismann. With respect to claim 74, the Office states that "it would have been well within the skill of an artisan to have used, for example, much more phosphorus dopant than arsenic dopant, thus resulting in a higher concentration of phosphorus atoms than arsenic atoms throughout the diffusion region." Applicants respectfully disagree with that assertion.

As stated in MPEP § 2144.03, "Official notice without documentary evidence to support an examiner's conclusion is permissible only in some circumstances. . . . Official notice unsupported by documentary evidence should only be taken by the examiner where the facts

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asserted to be well-known, or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well-known." Later in the same section, the MPEP states, "It would not be appropriate for the examiner to take official notice of facts without citing a prior art reference where the facts asserted to be well known are not capable of instant and unquestionable demonstration as being well-known." The MPEP then states, "assertions of technical facts in the areas of esoteric technology or specific knowledge of the prior art must always be supported by citation to some reference work recognized as standard in the pertinent art." The MPEP further states, "It is never appropriate to rely solely on 'common knowledge' in the art without prior evidentiary support in the record, as the principal evidence upon which a rejection was based."

Here, the Office failed to provide a single reason that one would use diffusion regions with different dopings. Applicants therefore assert that the Office has failed to meet its requirement for showing a *prima facie* case of obviousness. Applicants respectfully request the removal of this rejection.

The Office rejected claims 72 and 77 as being unpatentable over Chiang in view of Wiesmann and further in view of Friedman. Applicants respectfully traverse this rejection. As stated above, 200 Angstroms does not read upon the present claim's recitation of 350 Angstroms. Applicants respectfully request the removal of this rejection.

The Office rejected claims 83-86 and 88-90 under 35 U.S.C. § 103(a) as being unpatentable over Chiang in view of Wiesmann in view of Stanbery. Applicants have canceled claims 83-86 and 88-90, rendering this rejection moot.

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The Office rejected claim 87 under 35 U.S.C. § 103(a) as being unpatentable over Chiang et al. in view of Weismann and further in view of Stanbery and Friedman. Applicants have canceled claim 87, rendering this rejection moot.

The Office rejected claims 54-72 and 74-82 under 35 U.S.C. § 103(a) as being unpatentable over Ermer et al. in view of Weismann et al. Applicants respectfully traverse this rejection. As discussed above, the corrected Section 131 declaration shows that the present invention was reduced to practice before March 29, 1999, the filing date of Ermer. Therefore, Ermer is not prior art and the combination of Ermer with any other reference is not prior art. Applicants respectfully request the removal of this rejection.

The Office rejected claims 73 and 83-90 under 35 U.S.C. § 103(a) as being unpatentable over Ermer et al. over Weismann and further in view of Stanbery. Applicants respectfully traverse this rejection. As discussed above, the corrected Section 131 declaration shows that the present invention was reduced to practice before March 29, 1999, the filing date of Ermer. Therefore, Ermer is not prior art and the combination of Ermer with any other reference is not prior art. Applicants respectfully request the removal of this rejection.

CONCLUSION

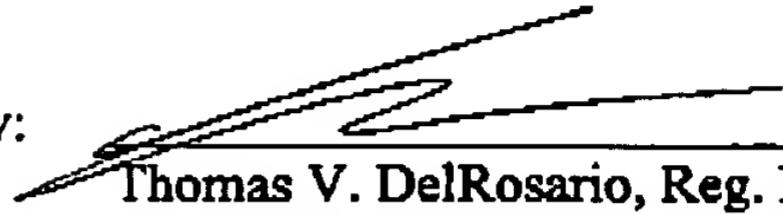
If there are additional charges concerning this response, please charge to White & Case LLP Deposit Account 23-1703.

A favorable consideration of the present amendment together with the original application is respectfully requested.

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Respectfully submitted,

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